



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT

Application No.: 09/851,865

Filing Date: May 9, 2001

Applicant: Crapo et al.

Group Art Unit: 2834

Examiner: Pedro J. Cuevas

Title: MAGNETIZATION OF PERMANENT MAGNET ROTORS WITH OFFSET ROTOR SECTIONS

Attorney Docket: 3174-000012

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JAN 14 2003  
TECHNOLOGY CENTER 2800

Hon. Commissioner of Patents and Trademarks  
Washington, D.C. 20231

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to 37 C.F.R. §§ 1.56, 1.97 and 1.98, Applicant hereby submits an Information Disclosure Statement for consideration by the Examiner.

I. LIST OF PATENTS, PUBLICATIONS, AND OTHER INFORMATION

The patents, publications and other information submitted for consideration by the Office (except unpublished U.S. patent applications) are listed on Form 1449 attached hereto.

II. COPIES

A. X Submitted herewith is a legible copy of (i) each U.S. patent application publication and U.S. and foreign patent; (ii) each publication or that portion which caused it to be listed; (iii) for each cited pending U.S. application, the application specification including the claims, and any drawing of the application which caused it to be listed including the claims directed to that portion; and (iv) all other information or that portion which caused it to be listed.

B. \_\_\_\_\_ Any patents, publications or other information which are listed on Form 1449 or on the copies of PTO-892, but which are not enclosed herewith, were previously cited by or submitted to the PTO in one of the following applications which has been relied upon for an earlier filing date under 35 U.S.C. § 120:

U.S. Serial Number

U.S. Filing Date

01/10/2003 KNUDSEN 00000007 0981865  
180.00 0P  
01 FC:1806

C.  This is a PCT application in the entry of the National Phase in the United States. A copy of the International Search Report is attached for the Examiner's information. The documents listed on the International Search Report are listed on the attached Form-1449 for consideration by the Examiner and for listing on any patent resulting from this application. Since the International Search Report was from the US, EPO, or JPO search authorities, copies of these references should have been supplied to the USPTO under the trilateral agreement and are believed to be in the file of the above-identified application. (MPEP 1893.03(g))

III. CONCISE EXPLANATION OF THE RELEVANCE (check at least one box)

A.  Except as may be indicated below in (B), all of the patents, publications or other information are in the English language (concise explanation not required).

B.  A concise explanation of the relevance of each patent, publication or other information listed that is not in the English language is as follows (see 37 C.F.R. § 1.98(a)(3)):

1.  See the attached foreign patent office communication from a counterpart foreign application:
2.  English translations are provided for:
3.  Other:

C.  The following additional information is provided for the Examiner's consideration.

IV. CROSS REFERENCE TO RELATED APPLICATION(S)

A.  The Examiner is advised that the following co-pending application(s) contain(s) subject matter that may be related to the present application. By bringing this(these) application(s) to the Examiner's attention, Applicant(s) does(do) not waive the confidentiality provisions of 35 U.S.C. § 122.

<u>Serial No.</u>	<u>Filing Date</u>	<u>Art Unit</u>
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V. THIS IDS IS BEING FILED UNDER

A.  37 C.F.R. § 1.97(b): (check only one box)

1.  within three months of the filing date of a national application other than a continued prosecution application under § 1.53(d) (37 C.F.R. § 1.97(b)(1)). No fee or certification is required.

2.  within three months of the date of entry of the national stage as set forth in § 1.491 in an international application (37 C.F.R. § 1.97(b)(2)). No fee or certification is required.

3.  before the mailing of a first Office Action on the merits (37 C.F.R. § 1.97(b)(3)). No fee or certification is required. In the event that a first Office Action on the merits has been issued, please consider this IDS under 37 C.F.R. § 1.97(c) and see the certification under 37 C.F.R. § 1.97(e) below; or, if no certification has been made, charge our deposit account a fee in the amount of \$180.00 as required by 37 C.F.R. § 1.17(p).

4.  before the mailing of a first Office Action after the filing of a request for continued examination under 37 C.F.R. § 1.114. No fee or certification is required.

B.  37 C.F.R. § 1.97(c): (check only one box)

• before the mailing date of either any Final Office Action under 37 C.F.R. § 1.113, a Notice of Allowance under 37 C.F.R. § 1.311, or an action that otherwise closes prosecution.

1.  No certification; therefore, a fee in the amount of \$180.00 is required by 37 C.F.R. § 1.17(p).

2.  See the certification below. No fee is required.

C.  37 C.F.R. § 1.97(d):

• after the mailing date of either a Final Office Action under 37 C.F.R. § 1.113 or a Notice of Allowance under 37 C.F.R. § 1.311, yet on or before payment of the issue fee.

1.  See the certification below. A fee in the amount of \$180.00 is required by 37 C.F.R. § 1.17(p).

VI. CERTIFICATION UNDER 37 C.F.R. § 1.97(e): (check only one box)

The undersigned hereby certifies that:

A.  each item of information contained in this IDS was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS (See 37 C.F.R. § 1.97(e)(1)). See further statement under 37 C.F.R. 1.704(d) below in section VII, if applicable; or

B.  no item of information contained in this IDS was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this IDS was known to any individual designated in 37

C.F.R. § 1.56(c) more than three months prior to the filing of this IDS (See 37 C.F.R. § 1.97(e)(2)).

C.  Some of the items of information were first cited in a communication from a foreign patent office. As to this information, the undersigned hereby certifies that each item of information contained in this IDS was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS. As to the remaining information, the undersigned hereby certifies that no item of this remaining information contained in this IDS was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this IDS was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this IDS.

VII. STATEMENT UNDER 37 CFR 1.704(d)

The undersigned hereby states that:

each item of information contained in this IDS was cited in a communication from a foreign patent office in a counterpart application and this communication was not received by any individual designated in 37 C.F.R. 1.56(c) more than thirty days prior to the filing of this IDS.

VIII. PAYMENT OF FEES (check only one box)

A.  A check in the amount of \$180.00 is enclosed for the above-identified fee.

B.  Please charge Deposit Account No. 08-0750 in the amount of \$180.00 for the above-indicated fee. A duplicate copy of this paper is attached.

The above references are being cited only in the interest of candor and without any admission that they constitute statutory prior art, contain matter which anticipates the invention, or which would render the same obvious, either singly or in combination, to a person of ordinary skill in the art. Furthermore, this Information Disclosure Statement shall not be construed as a representation that a search has been made.

If it is determined that this IDS has been filed under the wrong rule, the PTO is requested to consider this IDS under the proper rule (with a petition if necessary) and charge the appropriate fee to Deposit Account No. 08-0750.

Please charge any additional fees or credit any overpayment pursuant to 37  
C.F.R. § 1.16 or § 1.17 to Deposit Account No. 08-0750.

Respectfully submitted,

Dated: 1-6-03

By: Michael D. Wiggins  
Michael D. Wiggins  
Reg. No. 34,754

HARNESS, DICKEY & PIERCE, P.L.C.  
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(248) 641-1600

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# FEE TRANSMITTAL for FY 2003

Patent fees are subject to annual revision.

 Applicant claims small entity status. See 37 CFR 1.27**TOTAL AMOUNT OF PAYMENT** (\$ 180)

Complete if Known	
Application Number	09/851,865
Filing Date	May 9, 2001
First Named Inventor	Crapo et al.
Examiner Name	Pedro J. Cuevas
Group / Art Unit	2834
Attorney Docket No.	3174-000012

**METHOD OF PAYMENT (check all that apply)**

Check  Credit card  Money  Other  None  
 Deposit Account:

Deposit  
Account  
Number

08-0750

Deposit  
Account  
Name

Harness, Dickey &amp; Pierce, P.L.C.

**The Commissioner is authorized to:** (check all that apply)

Charge fee(s) indicated below  Credit any overpayments  
 Charge any additional fee(s) during the pendency of this application  
 Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

**FEE CALCULATION****1. BASIC FILING FEE**

Large Entity	Small Entity	Fee Description	Fee Paid
Fee Code	Fee Code	Fee (\$)	Fee (\$)
1001	2001	750	375
1002	2002	330	165
1003	2003	520	260
1004	2004	750	375
1005	2005	160	80

**SUBTOTAL (1)**

(\$ 0)

**2. EXTRA CLAIM FEES**

Total Claims	-20 **	=	Extra Claims	X	Fee from below	=	Fee Paid
Independent Claims	-20 **	=	0	X		=	0
Multiple Dependent	-3 **	=	0	X		=	0

**Large Entity**

Large Entity	Small Entity	Fee Description	Fee Paid
Fee Code	Fee Code	Fee (\$)	Fee (\$)
1202	2202	18	9
1201	2201	84	42
1203	2203	280	140
1204	2204	84	42
1205	2205	18	9

**SUBTOTAL (2)**

(\$ 0)

\*\*or number previously paid, if greater; For Reissues, see above

**FEE CALCULATION (continued)****3. ADDITIONAL FEES**

Large Entity	Small Entity	Fee Description	Fee Paid
Fee Code	Fee Code	Fee (\$)	Fee (\$)
1051	2051	130	65
1052	2052	50	25
1053	1053	130	130
1812	1812	2,520	2,520
1804	1804	920*	920*
1805	1805	1,840*	1,840*
1251	2251	110	55
1252	2252	410	205
1253	2253	930	465
1254	2254	1,450	725
1255	2255	1,970	985
1401	2401	320	160
1402	2402	320	160
1403	2403	280	140
1451	1451	1,510	1,510
1452	2452	110	55
1453	2453	1,300	650
1501	2501	1,300	650
1502	2502	470	235
1503	2503	630	315
1460	1460	130	130
1807	1807	50	50
1806	1806	180	180
8021	8021	40	40
1809	2809	750	375
1810	2810	750	375
1801	2801	750	375
1802	1802	900	900

Other fee (specify) \_\_\_\_\_

\*Reduced by Basic Filing Fee Paid

**SUBTOTAL (3)**

(\$ 180)

**SUBMITTED BY**

Name (Print/Type)	Michael D. Wiggins	Registration No. Attorney/Agent	34,754	Telephone	Complete (if applicable)
Signature	<i>Michael D. Wiggins</i>			Date	1-06-03

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

If you need assistance in completing this form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.



Please type a plus sign (+) inside this box →

HDP/SB/21 based on PTO/SB/21 (08-00)

\$ 2834

## TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	09/851,865
Filing Date	May 9, 2001
First Named Inventor	Crapo et al.
Group Art Unit	2834
Examiner Name	Pedro J. Cuevas

Attorney Docket Number

3174-000012

### ENCLOSURES (check all that apply)

<input checked="" type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Assignment Papers (for an Application)	<input type="checkbox"/> After Allowance Communication to Group
<input checked="" type="checkbox"/> Fee Attached	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment / Response	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address	<input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Terminal Disclaimer	<b>PTO Form 1449 citing 29 references; and Return Postcard.</b>
<input checked="" type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> Request for Refund	
<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> CD, Number of CD(s) _____	
<input type="checkbox"/> Response to Missing Parts/ Incomplete Application		
<input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53		
	Remarks	The Commissioner is hereby authorized to charge any additional fees that may be required under 37 CFR 1.16 or 1.17 to Deposit Account No. 08-0750. A duplicate copy of this sheet is enclosed.

### SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Harness, Dickey & Pierce, P.L.C.	Attorney Name Michael D. Wiggins	Reg. No. 34,754
Signature			
Date	1-6-03		

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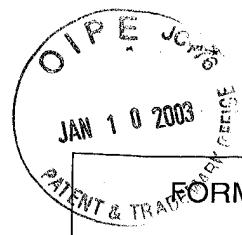
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### CERTIFICATE OF MAILING/TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231, or facsimile transmitted to the U.S. Patent and Trademark Office on the date indicated below.

Typed or printed name	Stephanie Provost		
Signature		Date	1-6-03



FORM HDP-1449 (Based on Form PTO-1449)

**PATENT AND TRADEMARK OFFICE  
INFORMATION DISCLOSURE CITATION**  
(Use several sheets if necessary)

Sheet 2 of 2

ATTORNEY DOCKET NO.	SERIAL NO.
3174-000012	09/851,865
APPLICANT	
Crapo et al.	
FILING DATE	GROUP
May 9, 2001	2834

**FOREIGN PATENT DOCUMENTS**

Ref. Desig.	Examiner's Initials	Document Number	Date	Country	Class/Subclass	Translation Yes	No
2.		JP60013455	23-01-85	Japan		X	
3.		JP63140645	13-06-88	Japan		X	
4.		EP0392028	✓ 17-10-90	Europe		X	
5.		EP0483372A1	✓ 06-05-92	Europe		X	
6.		EP300042	✓ 25-01-89	Europe		X	
7.		JP61199447	✓ 03-09-86	Japan		X	
8.		EP0449538A1	✓ 02-10-91	Europe		X	
9.		EP0564759A1	✓ 13-10-93	Europe		X	

**OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, etc.)**

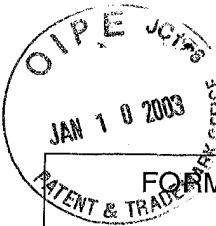
Ref. Desig.	Examiner's Initials	
1.		Ackermann/Janssen/Sottek/van Steen, "XP-002209198 New technique for reducing cogging torque in a class of brushless DC motors", IEEE Proceeding-B, Vol. 139, No. 4 July 1992, pp. 315-320.
2.		Chen/Bruhl, "XP-000833296 The Robust Design Approach For Reducing Cogging Torque In Permanent Magnet Motors", IEEE Transactions on Magnetics, Vol. 34, No. 4, July 1998, pp. 2135-2137.
3.		Zhu/Howe, "XP-002206342 Influence of Design Parameters on Cogging Torque in Permanent Magnet Machines", IEEE Transactions on Energy Conversion, Vol. 15, No. 4, December 2000, pp. 407-412.

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Examiner:

Date Considered:

EXAMINER: Please initial if citation considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



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1-21-03  
27N

FORM HDP-1449 (Based on Form PTO-1449)

**PATENT AND TRADEMARK OFFICE**  
**INFORMATION DISCLOSURE CITATION**  
(Use several sheets if necessary)

Sheet 1 of 2

ATTORNEY DOCKET NO.	SERIAL NO.
3174-000012	09/851,865
APPLICANT	
Crappo et al.	
FILING DATE	GROUP
May 9, 2001	2834

**U.S. PATENT DOCUMENTS**

Ref. Desig.	Examiner's Initials	Document Number	Date	Name	Class/Subclass	(If appropriate) Filing Date
1.		4,700,098	10/13/1987	Kawashima		
2.		4,739,203	04/19/1988	Miyao et al.		
3.		5,006,745	04/09/1991	Nishio et al.		
4.		5,034,642	07/23/1991	Hoemann et al.		
5.		5,164,622	11/17/1992	Kordik		
6.		5,250,867	10/05/1993	Gizaw		
7.		5,388,658	02/14/1995	Ando et al.		
8.		5,610,464	03/11/1997	Asano et al.		
9.		5,753,991	05/19/1998	Couture et al.		
10.		5,886,440	03/23/1999	Hasebe et al.		
11.		5,982,067	11/09/1999	Sebastian et al.		
12.		6,031,304	02/29/2000	Suzuki et al.		
13.		6,034,459	03/07/2000	Matsunobu et al.		
14.		6,034,460	03/07/2000	Tajima et al.		
15.		6,040,647	03/21/2000	Brown et al.		
16.		6,140,728	10/31/2000	Tomita et al.		
17.		6,262,507	07/17/2001	Sato et al.		

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**FOREIGN PATENT DOCUMENTS**

Ref. Desig.	Examiner's Initials	Document Number	Date	Country	Class/Subclass	Translation Yes	No
1.		JP61199446	03-09-86	Japan		X	

Examiner:

Date Considered:

EXAMINER: Please initial if citation considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.